

Amendment to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in this application.

Listing of Claims:

1. (Currently Amended) An adenoviral expression vector for generating immunity against a tumor antigen, said vector comprising a transcription unit encoding a polypeptide, said polypeptide comprising from the amino terminus a secretory signal sequence, a tumor antigen, and a CD40 ligand, wherein said tumor antigen is different from said CD40 ligand and wherein said CD40 ligand is missing all or substantially all of the transmembrane domain rendering the CD40L secretable.
2. (Currently Amended) The adenoviral expression vector of claim 1 wherein said tumor antigen is a human tumor antigen, and where said tumor antigen is connected to the amino terminus of said CD40L rendered secretable to promote presentation of the tumor antigen on Class I MHC of human dendritic cells.
3. (Original) The adenoviral expression vector of claim 2 wherein said tumor antigen is the E7 protein of human papilloma virus.
4. (Currently Amended) The adenoviral expression vector of claim 1 wherein said transcription unit encodes a linker between said tumor antigen and the amino terminus of said CD40 ligand thereby leaving the carboxyl terminus of CD40L free to bind to a CD40 receptor.

5. (Original) The adenoviral expression vector of claim 1 wherein said vector includes a human cytomegalovirus promoter/enhancer for controlling transcription of the transcription unit.
6. (Currently Amended) The adenoviral expression vector of claim 1 wherein said tumor antigen is a human tumor antigen and said CD40 ligand is a human CD40 ligand.
7. (Original) The adenoviral expression vector of claim 1 wherein said CD40 ligand lacks a cytoplasmic domain.
8. (Original) The adenoviral expression vector of claim 1 wherein the vector encodes a CD40L that includes no more than six residues from either end of the transmembrane domain.
9. (Currently Amended) The adenoviral expression vector of claim 1 wherein said vector does not encode the transmembrane domain of the CD40 ligand.
10. (Currently Amended) The adenoviral expression vector of claim 6 wherein said CD40 ligand comprises the amino acid residues 47-261, the extracellular domain of CD40L.
11. (Currently amended) The adenoviral expression vector of claim 6 wherein said CD40 ligand comprises the amino acid residues 1-23, the cytoplasmic domain of CD40L, and the amino acid residues 47-261, the extracellular domain of CD40L.

12. (Original) The adenoviral expression vector of claim 1 wherein said vector is rendered non-replicating in normal human cells.

13. (Withdrawn) A method of generating an immune response in an individual against cells expressing a tumor antigen, comprising administering to the individual an effective amount of the adenoviral expression vector of claim 1.

14. (Withdrawn) The method of claim 13 wherein said tumor antigen is the E7 protein of human papilloma virus.

15. (Withdrawn) The method of claim 13 wherein said CD40 ligand is human CD40 ligand.

16. (Withdrawn) The method of claim 13 wherein said cancer cells are cervical cancer cells.

17. (Withdrawn) The method of claim 16 wherein said tumor antigen is E7 protein of human papilloma virus.

18. (Withdrawn) The method of claim 13 wherein said administering is repeated.

19. (Withdrawn) The method of claim 13 wherein said immune response includes the generation of cytotoxic CD8⁺ T cells against said tumor associated antigen.

20. (Withdrawn) The method of claim 13 wherein following administration, said vector is taken

up by cells which subsequently secrete a fusion protein encoded by the transcription unit.

21. (Withdrawn) The method of claim 20 wherein said fusion protein forms a homotrimer through interaction of CD40 ligand extracellular domains.

22. (Withdrawn) A method of treating an individual with cancer that expresses a tumor antigen, comprising administering to the individual an effective amount of the adenoviral expression vector of claim 1.

23. (Withdrawn) The method of claim 22 wherein said tumor antigen is the E7 protein of human papilloma virus.

24. (Withdrawn) The method of claim 22 wherein said CD40 ligand is human CD40 ligand.

25. (Withdrawn) The method of claim 22 wherein said cancer is cervical cancer.

26. (Withdrawn) The method of claim 25 wherein said tumor antigen is E7 protein of human papilloma virus.

27. (Withdrawn) The method of claim 22 wherein said administering is repeated.

28. (Withdrawn) The method of claim 22 wherein said immune response includes the generation of cytotoxic CD8⁺ T cells against said tumor associated antigen.

29. (Withdrawn) The method of claim 22 wherein following administration, said vector is taken up by cells which subsequently secrete a fusion protein encoded by the transcription unit.

30. (Withdrawn) The method of claim 29 wherein said fusion protein forms a homotrimer through interaction of CD40 ligand extracellular domains.

31. (Withdrawn) A method of generating immunity in a subject to infection by human papilloma virus, comprising administering to the individual an effective amount of the adenoviral expression vector of claim 1 wherein said tumor antigen is the E6 or E7 protein of human papilloma virus.

32. (Withdrawn) The method of claim 31 wherein said CD40 ligand is human CD40 ligand.

33. (Withdrawn) The method of claim 31 wherein said administering is repeated.

34. (Withdrawn) The method of claim 31 wherein said immune response includes the generation of cytotoxic CD8⁺ T cells against human papilloma virus.

35. (New) The adenoviral expression vector of claim 2, wherein said tumor antigen includes a tumor associated antigen.

36. (New) The adenoviral expression vector of claim 35, wherein said tumor antigen additionally includes a tumor specific antigen.

37. (New) The adenoviral expression vector of claim 1, whereby in generating an immune response against a human tumor antigen, the tumor antigen/CD40L is encoded to cause human dendritic cells to present tumor antigens on Class I MHC in order to induce activation and amplification of cytotoxic CD8 effector T cells against the tumor antigen.

38. (New) The adenoviral expression vector of claim 3, whereby the tumor antigen is a tumor associated antigen.

39. (New) The adenoviral expression vector of claim 1 wherein said tumor antigen is a human tumor antigen and the transcription unit encoding causes the manufacture of quantities of tumor antigen/CD40L fusion proteins sufficient to induce an immune response, and adapted to bind to CD40 receptors of dendritic cells causing the dendritic cells to be activated and to migrate to lymph nodes to activate and amplify CD8 effector T cells to kill cancer cells which are positive for said tumor antigen.

40. (New) An adenoviral expression vector for generating immunity against a tumor antigen, said vector comprising a transcription unit encoding a fusion protein comprised from the amino terminus a secretory signal sequence, a tumor antigen, and a CD40 ligand, wherein said tumor antigen is different from the CD40 ligand and where the CD40 ligand is missing all or substantially all of the transmembrane domain rendering the CD40L secretable, said vector encoded to secrete quantities of tumor antigen/CD40L fusion proteins sufficient to induce an immune response, and adapted to bind to CD40 receptors of dendritic cells leading to dendritic cell activation, presentation of tumor antigens on Class I MHC of the dendritic cells and

migration of the dendritic cells to lymph nodes to induce the amplification of antigen specific CD8 effector T cells leading to killing of cancer cells positive for the tumor antigen.

41. (New) The adenoviral expression vector of claim 40 where the activated dendritic cells are tumor antigen-loaded antigen presenting cells.

42. (New) The adenoviral expression vector of claim 40 where the dendritic cells are activated for migration to lymph nodes to induce an antigen specific cellular immune response that kills tumor cells.